Lurking: a challenge or a fruitful strategy? A comparison between lurkers and active participants in an online corporate community of practice

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Lurking: a Challenge or a Fruitful Strategy?

A Comparison between Lurkers and Active Participants in an Online Corporate Community of Practice

Abstract: For today's organisations to obtain competitive advantages, online corporate Communities of Practice (CoPs) are indispensable. However, often the majority of its participants does not post content; they lurk. We explore four different perspectives on why people lurk; that is free-riding, legitimate peripheral participation, microlearning, and knowledge sharing barriers, and analyses whether and why they are detrimental or fruitful for the knowledge management process.

To gain insight in the reasons for people to lurk, we conducted a study comparing lurkers and active participants of an online corporate CoP in the light of the perspectives as presented above. First, the results of this study indicate that lurkers use the obtained knowledge on the job and therefore cannot simply be considered free-riders. Second, study results suggest that lurkers use lurking as a learning strategy, which confirms the microlearning hypothesis. Last, the results of this study indicate that knowledge sharing barriers can enhance lurking and might be detrimental for the knowledge management process.

Keywords:

lurking; lurkers; online community; online communities; corporate online community; corporate online communities; community of practice; communities of practice; online corporate community of practice; online corporate communities of practice; CoP; CoPs; knowledge management

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1 Introduction

Online, or virtual, communities have become an important method of knowledge management (KM). KM can leverage knowledge sharing and that way, support continuous organisational learning and obtain competitive advantage for the organisation. In particular online corporate communities of practice (CoPs) can have benefits to leverage knowledge sharing and creation (Kang & Shin, 2008). However, the success and sustainability of online communities in general highly depends on the active participation of its members (e.g. Ardichvilli, 2008; Bieber et al., 2002; Fetter, Berlanga, & Sloep, 2009; Soroka & Rafaeli, 2006). In many cases an online community only has an active core group of posters and a much bigger group of people who read messages of others but never post any content (e.g. Kahnwald & Köhler, 2006; Nonnecke, Andrews, Preece, & Voutour, 2004; Soroka & Rafaeli, 2006). These readers-only are called lurkers.

We present four different perspectives on why people lurk and indicates if these perspectives on lurking are considered detrimental or beneficial for the KM process. It furthermore surveys lurking employees in an existing corporate online CoP in order to determine why they lurk and how various reasons for lurking as categorised under the four different perspectives, are distributed over the community. In addition, we discuss if the present reasons are considered harmful or fruitful for the KM process. It claims that it is possible to develop supportive strategies that could potentially help to tackle the problematic reasons. This way, corporations would have tools available that would allow them to intervene if necessary and that way leverage growth, success, and sustainability for their CoPs. In turn, this can lead again to obtaining competitive advantages (Antonova & Gourova, 2006). On the other hand, if employees lurk for reasons that are considered fruitful, that would be valuable information as well, as these reasons could then be interpreted as a valuable part of the knowledge sharing and KM process.

2 Theoretical Background

Online, or virtual, communities have become an important method of KM to leverage an organisation’s intellectual capital. This, by enhancing knowledge exchange and that way support continuous organisational learning (Anthony, et al., 2009).

Johnson (2001) describes online communities as communities that use current networked technology and Chen (2007) adds that those communities are centred upon communication and interaction of participants. Online communities do not develop over night; rather they grow over time (Sloep, 2008). They can have many purposes, of which sharing techniques, work, or best practices are typical examples for online CoPs. Wenger (2001) defines CoPs as "*...groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly." (pp. 1)*. Online corporate CoPs have a specific purpose to spread knowledge in order for professionals to meet today's high performance standards and for the organisation to obtain competitive advantage (Kang & Shin, 2008).

Lurking in Online Communities: Four Different Perspectives

While, as stated above, online corporate CoPs are a way for an organisation to leverage continuous professional development, Kerno (2008) stresses that they must be understood in terms of their limitations as well. Although the success and sustainability of online communities highly depends on the active participation of its members (e.g. Ardichvilli, 2008; Bieber, et al., 2002; Fetter, Berlanga, & Sloep, 2009); Soroka & Rafaeli, 2006), in many cases an online community only has an active core group of posters and a much bigger group of lurkers (Kahnwald & Köhler, 2006; Nonnecke, et al., 2004; Soroka & Rafaeli, 2006). To clarify, we do not consider occasional posting lurking as it is a normal ebb and flow dynamism as topics change (McDermott, 2000).

Research on lurking shows four perspectives on the phenomenon; that is free-riding (e.g. Kollock & Smith, 1996), legitimate peripheral participation (LPP) (Lave & Wenger, 1991), microlearning (Kahnwald & Köhler, 2006), and knowledge sharing barriers (Ardichvilli, 2008). Some of these perspectives shed a problematic light on lurking (e.g. Kollock & Smith, 1996; Morris & Ogan, 1996) while others suggest that lurking is fruitful (e.g. Kahnwald & Köhler, 2006). Various reasons for lurking (e.g. Johnson, 2001; McDermott, 2000; Nonnecke et al. 2004; Nonnecke & Preece 2001; Preece, Nonnecke, & Andrews, 2004) can be categorised under one of these four perspectives. The next section analyses the four perspectives on lurking and the various reasons that fall under these perspectives.

Free-Riding

One well-known perspective on lurking is free-riding (Rheingold, 1993; Kollock & Smith, 1996; Morris & Ogan, 1996; Wellman & Gulia 1998). Soroka and Rafaeli (2006) define free-riding as a use of common good without making any contributions to it. Because information and knowledge is usually considered a public good, lurkers can be perceived as free-riders. Preece et al. (2004) suggest, together with Ardichvilli (2008) and Bureŝ (2006) that lurkers consider knowledge power and therefore believe it should not be shared in order to keep one's value and uniqueness.

Legitimate Peripheral Participation

Lurking can also be defined as a *"persistent but silent audience"* (Soroka & Rafaeli, 2006, pp. 164). The silent part refers to lying in wait. This suggests that perhaps they are waiting for an opportunity to actively share their knowledge. This idea aligns with legitimate peripheral participants (LPPs) (Lave & Wenger, 1991); another term that is used for lurkers.

For an online corporate CoP, we argue that the LPP phenomenon concerns especially new employees, even when they are experts in their field. After all, new hires are overwhelmed with new information; they need to get to know their direct peers, the organisational culture, and so forth. It is furthermore expected that they are focused on making a great first impression and will therefore carefully test the waters.

The term *new employee* is complex in itself. Rollag (2007) attempts to define the term "new" in this context and concludes that organisational members judge newness of their co-workers by evaluating the individual's tenure relative to other co-workers. Therefore, organisational growth and turnover may influence new employee socialization dynamics. According to Rollag (2007), individuals in fast-growing organisations lose their newbie status more quickly than employees in slow-growing organisation. In conclusion, the definition of a *new employee* depends on the corporation where research is conducted.

So far, we presented interpretations of lurking as a more sinister intent or as a temporary phase. However, Stegbauer (in Kahnwald & Köhler, 2006) found that, if participants do not post the first four months, the likelihood for them to become active is already minimised. This result suggests that lurking is not just a temporary or developmental phase.

Microlearning

Although LPP is applicable to the learning processes of lurkers in online communities; it cannot exhaustively explain the mass phenomenon of lurking (Kahnwald & Köhler (2006). These authors claim that lurking is an efficient informational behaviour and can therefore be interpreted as a way of learning. They refer to this learning as microlearning, which basic premise is that people learn better and more effectively if information is broken down in smaller chunks and if learning takes place in small steps.

Online communities are the obvious place for an analysis under a microlearning perspective as they are recognised as social learning and information spaces to which individuals can connect on demand (Kahnwald & Köhler, 2006).

Knowledge Sharing Barriers

The free-riding, LPP, and microlearning perspective all suggest that lurking is intentional. As opposed to intentional lurking, Nonnecke et al. (2004) claim that some decide not to post as a result of a negative community experience. Below, we identify several knowledge sharing barriers that cause individuals to lurk.

Knowledge sharing barriers can be defined as obstacles that individuals face and that make them decide to not share their knowledge with other community members. Several researchers mention knowledge sharing barriers (e.g. Ardichvilli, 2008; Garfield, 2006). Others identified reasons for lurking (e.g. Nonnecke & Preece, 2001; Preece et al, 2004) from which knowledge sharing barriers can be distracted. Inspired by Ardichvilli (2008), we focus on three categories of knowledge sharing barriers that we deem to be most relevant for this study. These categories are:

1. Interpersonal
2. Procedural
3. Technological

Interpersonal knowledge sharing barriers.

The interpersonal category refers to fear of criticism and fear of misleading peers (Ardichvilli, 2008). Ardichvilli (2008) and Sharatt and Usoro (2003) far and foremost see fear of losing face as the driving force behind this category.

In addition, Preece et al. (2004) suggests that individuals are afraid of making commitments to the group or having their comments mocked. Nonnecke and Preece (2001) add that individuals might be shy to post.

In summary, all types of fears or uncomfortable feelings fall under the umbrella of interpersonal knowledge sharing barriers.

Procedural knowledge sharing barriers.

Procedural knowledge sharing barriers refer to a lack of understanding of the best and most efficient way to share knowledge. Garfield (2006) gives three reasons why people do not share knowledge that fall into the category of procedural knowledge sharing barriers:

1. Employees do not understand why knowledge sharing is important for the organisation and themselves.
2. Employees do not believe that the recommended ways of sharing knowledge are effective.
3. Employees are not motivated to share and/or do not see personal benefits of sharing.

Technological knowledge sharing barriers.

Technological knowledge barriers refer to a lack of technological aptitude or acceptance of technology for communication purposes (Ardichvilli, 2008). Preece et al. (2004) mention that not getting the software to work is one of the main reasons for lurking. Chen (2007) and McDermott (2000) also acknowledge the technological factor as a knowledge sharing barrier.

The technological knowledge sharing barrier can be as simple as a confusing and cluttered interface usability problem (Preece et al., 2004). However, it can also apply to lack of internet self-efficacy (Kang & Shin, 2006). The authors define internet self-efficacy as the belief in an individual's capabilities to use internet technology. In addition, Sharatt and Usoro (2003) argue that the action itself must be easy to undertake and that the outcome of the action, or the information found, must be perceived as useful.

The perspectives on lurking as described above shed different lights on the phenomenon of lurking. Important questions are whether and why lurking is a problem for online corporate CoPs.

Whether and Why Lurking Is a Problem for Online Corporate CoPs

In this article we state that whether lurking is a problem or not depends on the purpose of the social community. For example, a more social focused online community might keep going if there is just sufficient activity to make a visit to the community interesting to individuals. However, corporate online CoPs serve a whole different purpose; that is to spread knowledge and involve practitioners directly in knowledge management they need individually and collectively to meet today's high performance standards (Wenger & Snyder, 2000) and to obtain competitive advantage (Anthony et al, 2009). In order to reach this goal, knowledge creation is necessary. And, as claimed before, knowledge creation starts with knowledge sharing.

Also, online corporate CoPs depend on the employees that are currently working for the organisation. This might make those CoPs more vulnerable. McDermott (2000) points out how critical a passionate core group is for an online corporate CoP. If an individual that belongs to the core of the community leaves the organisation, it is possible that his spot remains untaken.

Some claim that ideally all online CoPs' members participate actively in order to accomplish successful knowledge sharing (Ardichvilli, 2008). Others point out that information overload is a problem for online CoPs (Kahnwald & Köhler, 2006; Soroka & Rafaeli, 2006). If people feel that they do not have anything new to add to existing content, it is wise for them to stay silent. However, Preece et al., (2004) indicate the possibility that the community misses out on interesting alternatives or more subtle explanations. Especially for a corporation, these might be critical to obtain that desired competitive advantage.

Besides the above arguments whether and why lurking in corporate online CoPs can be considered problematic in general, in this article we analyse if lurking is either problematic or fruitful for online corporate CoPs in the light of each perspective on lurking as presented previously. This analysis leads to several hypotheses and a case study on why lurkers in online corporate CoPs lurk.

3 Hypotheses

Free-Riding

If individuals just like to free-ride in online corporate CoPs, it might be a problem as they can potentially limit the organisational intellectual capital (Brown & Duguid, 1991). It is important for a corporation to know if individuals still spread the knowledge they obtained online within the organisation. If that is the case, this type of lurking is not problematic. Several recent studies show that most lurkers are not simply free-riders (Kahnwald & Köhler, 2006; Preece, et al., 2004; Soroka & Rafaeli, 2006) and therefore it is very likely that lurkers from an online corporate CoP go online with a professional need for information and when they find what they need, will use this information on the job. Therefore, we hypothesise that:

H1: With regard to free-riding, there is no difference between lurkers and active participants in using the obtained knowledge on the job.

Legitimate Peripheral Participation

As explained before, we interpret LPP as employees that are new to the company and not so much as people who are non-experts as this might differ as topics change (McDermott, 2000). Lurking by new hires seems very realistic for online corporate CoPs, as stated previously.

Although this type of lurking is understandable from the new hire's point of view, it might be potentially problematic for the KM process. After all, Stegbauer (in Kahnwald & Köhler, 2006) found that, if participants did not post for the first four months, the likelihood for them to become active posters was already minimised. This suggests that, if a new employee is cautious to post in the first place, they might decide to never do it. As a consequence, the corporation potentially deals with a lack of knowledge sharing within the CoP, which makes it vulnerable.

H2. When compared to active participants, lurkers in online corporate CoPs are more frequently new employees.

Microlearning

If lurking is interpreted in the perspective of microlearning, it serves as an informational strategy for employees. If individuals use the obtained knowledge on the job, it can be an advantage to the organisation as it would be a relatively cheap way of continuous professional development (Butler, Sproul, & Kiesler, 2008). Nonnecke et al., (2004) show that for some lurkers reading and browsing is enough, while others claim that they use the online community to find solutions to urgent problems. Those reasons can be interpreted as a form of microlearning and we state that:

H3. With regard to using browsing and reading as an informational strategy, there is no difference between lurkers and active participants in online corporate CoPs.

Knowledge Sharing Barriers

The last perspective on lurking involves knowledge sharing barriers. Ardichvilli (2008) suggests that all knowledge barriers are problematic for online corporate CoPs. If individuals go online with the intention to contribute knowledge, but decide not to because of a knowledge sharing barrier, this can be potentially harmful for the intellectual capital of the corporation (Nahapiet & Goshal, 1996).

It is very well possible that employees decide not to post because of interpersonal knowledge sharing barriers. Wasko and Faraj (2005) claim that building professional reputation is a strong motivator for active participation in online communities. It seems fair to assume that most employees therefore would have the initial intention to post. However, if a fear of criticism, losing face, or misleading peers is stronger than the desire to build a reputation, they might decide to not post.

H4.1. Unlike active participants, lurkers in online corporate CoPs experience interpersonal knowledge sharing barriers.

It is also likely that employees decide to lurk because of procedural knowledge sharing barriers. Although many organisations adopt the concept of online CoPs, the actual management of those CoPs often turns out to be a challenge (Kerno, 2008). McDermott (2000) acknowledges that online corporate CoPs do not always focus on

topics that are both important to the business and the CoP members. He also stresses that the community does not always build on the core values of an organisation. Kerno (2008) addresses the lack of time available in which to engage in the CoP activities. Garfield (2006) adds that employees might not know why they should share their knowledge because management has not communicated clearly on knowledge-sharing expectations or goals. All those types of procedural knowledge sharing barriers may hamper people's willingness to help others.

H4.2. Unlike active participants, lurkers in online corporate CoPs experience procedural knowledge sharing barriers.

Last, the technological sharing barrier is a potential problem for the corporation as well. Systems that fail to do what a user intends to do will fall out of use (Chen, 2007). As described previously, many researchers acknowledge the impact and recurrence of technological knowledge sharing barriers (Ardichvilli, 2008; Chen, 2007; Garfield, 2006; McDermott, 2000; Preece et al., 2004) and therefore it is very well possible that employees decide to lurk because of them.

H4.3. Unlike active participants, lurkers in online corporate CoPs experience technological knowledge sharing barriers.

In order to test the hypotheses as stated above, we conducted an experiment with members of an online corporate CoP as described below.

4 Methodology

Participants

The participants were a total of 800 members of an online corporate CoP for the Business & Sales department at a wireless phone company in Washington State, United States of America. For privacy reasons, the organisation will be referred to as *Sell Phones Unlimited*, while the online corporate CoP will be referred to as *SPUnet.*

The participants were divided in two groups, based on the participant contribution score. Each time a participant contributes to SPUnet, he or she receives between two and 10 points, depending on the type of contributions. For example, creating a new blog post is worth three points, while a correctly answered forum thread question has a 10-point value.

The vendor of the online community platform provided a list of participants with zero points (lurkers) and a list of participants with more than zero points (active participants). The total of 800 participants could be divided in 450 lurkers and 350 active participants.

Materials

We used a five-point Likert scale survey that was designed specifically for this study. The survey had a total of 22 questions and a comments section. The questions fed into several categories. Each category could be linked to one of the hypotheses as listed previously; that is free-riding, LPP (new employees), microlearning, interpersonal knowledge sharing barriers, procedural knowledge sharing barriers, and technological knowledge sharing barriers. Each category includes four to five questions.

The possible answers to each question varied from one (strongly agree) to five (strongly disagree). Table 1 shows a sample question for each of the categories.

Table 1
Survey Examples for Each Category

Category	**(min/max score per category)**	**Sample Item**
Free-riding	(4/20)	I use the information that I find on SPUnet to do my job.
LPP	(4/20)	How long have you been working for Sell Phones Unlimited?
Microlearning	(4/20)	I learn by browsing and reading on SPUnet.
Knowledge Sharing Barriers		
Interpersonal	(4/20)	I am not afraid that my fellow employees will

		criticise my posts on SPUnet.
Procedural	(5/25)	SPUnet focuses on topics that are both important to the business and to me.
Technological	(4/20)	It is easy to find the information that I need on SPUnet.

The survey was constructed by the authors of this article and four people reviewed the survey. Two of them knew the purpose of the study, while the other two did not. After review, nine questions were adjusted.

In order to prevent sequencing effects, the 21 questions were quasi-randomised. The question *How long have you been working for Sell Phones Unlimited?* is chosen as the last question as it is the most personal one.

To prevent possible duplicates, IP addresses were logged. Two separate but identical surveys were created in order to manage the two different groups. The lurkers received a different link than the active participants. This was done to be able to divide lurkers' responses and active participants' responses. Participants could only send the survey if they answered all the survey questions in order to avoid missing data.

Procedures

Each participant received a request through the official SPUnet email address to fill out the survey. They could fill out the survey online and sent their answers through email. After four days, 81 responses were received and a reminder email was sent. After five days a total of 89 valid responses was collected and served as research input.

5 Results

From the 450 lurkers and 350 active participants (N=800), a total of 89 people responded (29 lurkers and 60 active participants).

To verify the homogeneity of the previously selected items per category, a Reliability Analysis was conducted. Cronbach's Alfa was determined for each category (see table 2).

Table 2

Cronbach's Alpha for Each Category

Category (min/max score)	**Cronbach's Alpha**	**Valid Cases**	**N of items**
Free-riding (4/20)	.586	86	4
Microlearning (4/20)	.852	89	4
Knowledge Sharing Barriers			
Interpersonal (4/20)	.729	87	4
Procedural (5/25)	.786	85	5
Technological (4/20)	.937	88	4

There were insufficient employees who can be considered new employees. Only one lurker and four active participants can be defined as such. These numbers indicate that the LPP hypothesis *new employees in online corporate CoPs are lurkers* cannot be tested in this study.

In order to determine differences between lurkers and active participants, an ANOVA test was conducted for each remaining category. Table 3 shows the Means, standard deviations, and significance levels for the free-riding, microlearning, interpersonal knowledge sharing barriers, procedural knowledge sharing barriers, and technological knowledge sharing barriers categories.

Table 3

Means and Standard Deviations for Lurkers and Active Participants for Each Category

Source	**Lurkers (N=29)**		**Active Participants (N=60)**		**Significance**	
	Mean	SD	Mean	SD	F	p
Free-riding	8.32	2.25	6.9	1.83	9.83	.00*
Microlearning	10.24	3.66	9.28	3.15	1.63	.21
Knowledge Sharing Barriers						
Interpersonal	13.32	2.16	15.34	2.35	14.75	.00*
Procedural	16.96	3.72	18.62	2.88	5.06	.03*
Technological	11.31	4.55	12.29	4.38	.95	.33

Free-Riding

Unexpectedly, the results for the free-riding category show a significant difference between lurkers and active participants ($F(1, 84) = 9.83$, $MSE = 38.339$, $p = .00$, $\eta = .324$). However, Means show that both groups agree with the items as included in this category (8.32 for lurkers and 6.9 for active participants), indicating that active participants agree more strongly than lurkers do.

Microlearning

The results for the microlearning category show that, in accordance to the hypothesis, there is no difference between lurkers and active participants ($F(1, 87) = 1.63$, $MSE = 17.945$, $p = .21$, $\eta = .135$). As expected, both groups agree with the items as included in this category (Means=10.24 for lurkers and 9.28 for active participants).

Interpersonal Knowledge Sharing Barriers

As expected, for the interpersonal knowledge sharing barriers category the results indicate that both groups differ significantly ($F(1, 85) = 14.75$, $MSE = 77.293$, $p = .00$, $\eta = .385$). A Means of 13.32 for the lurkers and 15.34 for the active participants, suggest that active participants disagree more strongly than lurkers. Lurkers seem to tend more to the neutral side, while the hypothesis expects lurkers to agree and active participants to disagree.

Procedural Knowledge Sharing Barriers

The procedural knowledge sharing barrier hypothesis expected the lurkers to agree and the active participants to disagree. However, a Means of 16.96 for lurkers and a Means of 18.62 for active participants indicates, unexpectedly, that both groups disagree with the statements that are included in this category. The results furthermore show a significant difference between lurkers and active participants ($F(1, 83) = 5.06$, $MSE = 50.629$, $p = .03$, $\eta = .240$), suggesting that the active participants disagree more strongly than the lurkers do.

Technological Knowledge Sharing Barriers

Last, the results for the technological knowledge sharing barriers indicate, au contraire the hypothesis, that there are no differences between lurkers and active participants ($F(1,86) = .95$, $MSE = 18.589$, $p = .33$, $\eta = .104$). The responses of both groups suggest that they are somewhere between neutral and disagree on this category (Means for lurkers=11.31; Means for active participants=12.29).

6 Discussion

In the present study, we investigated four different perspectives on why members of an online CoP lurk and we indicated which of those perspectives can be considered fruitful or detrimental for the knowledge sharing and KM process. The experiment conducted in the online corporate CoP sheds an interesting light on employees' reasons for lurking and its consequences for the KM process.

Free-riding

The free-riding hypothesis stated that neither lurkers nor active participants in corporate online CoPs are free-riders as they use the obtained knowledge on the job. This hypothesis was confirmed. Therefore, it may be concluded that also lurkers contribute to the intellectual capital of their organisations.

However, the significant difference between groups indicates that active participants might feel a stronger urge to share knowledge with others on the job than lurkers do. It is important to note that α was low for the free-riding scale (.586), which suggests that the results must be interpreted very carefully.

Microlearning

The hypothesis for microlearning states that both active participants and lurkers in online corporate CoPs use browsing and reading as an informational strategy. The results indicate that this hypothesis can be confirmed. This finding aligns with the suggestion of Kahnwald and Köhler (2006) that lurking is a legitimate informational strategy. We would like to add that, with regard to an online corporate CoP, lurkers use the information that they find on the job. Also, they feel that browsing and reading supports their professional development and improves job performance.

Interpersonal Knowledge Sharing Barriers

Although, au contraire the hypothesis, both lurkers and active participants do not seem to experience interpersonal knowledge sharing barriers, the difference between both groups was significant; indicating that the lurkers have a more neutral attitude towards the hypothesis while the active participants seem to truly disagree. It might be difficult for lurkers to admit that a fear of losing face or being criticised plays a role for them. Another option is that the statements in the survey are too strong. Perhaps feelings are more subtle than being afraid or feeling that you risk misleading your peers. A further possibility is that lurkers experience those feelings only for certain topics.

Procedural Knowledge Sharing Barriers

The procedural knowledge sharing barrier hypothesis cannot be confirmed as such, as lurkers do not seem to experience this type of barrier. However, again, groups differ significantly and active participants seem to disagree more strongly than lurkers do. It is possible that procedural knowledge sharing barriers are more complex than the used survey covered. The survey items included strongly relate to aspects of organisational culture, such as values, beliefs, assumptions, and manager support. Many researchers, such as Ardichvilli (2008), McDermott and O'Dell (2001), Tuggle and Shaw (2000), and Usoro and Kuofie (2006), acknowledge organisational culture as a major factor to success (or failure) and recognise a supportive organisational culture as an enabler of knowledge sharing. Although it is beyond the scope of this article to discuss the wide variety in definitions of organisational culture and the impact it might have on employee behaviour and attitudes (Usoro & Kuofie, 2006), it is important to note that organisational culture might very well influence an employee's perspective on procedural knowledge sharing barriers. In the case of this study, it is possible that

neither active participants nor lurkers experience procedural knowledge sharing barriers because they feel that they work in a supportive organisational culture.

Technological Knowledge Sharing Barriers

The results for the technological knowledge sharing barrier hypothesis suggest, unexpectedly, that both lurkers and active participants feel neutral towards this barrier. In addition, it needs to be noted that the majority of the respondents who filled out the *Comments Section* in the survey (N=30), say that information on SPUnet is hard to find because there is too much information on the site and the information is cluttered and unorganised.

On one hand it cannot be confirmed that lurkers experience a technological knowledge sharing barrier, while on the other hand the results indicate that the tools are not as efficient and effective as need be. After all, the CoP members do not disagree with the survey statements either. As mentioned previously, it is critical to have high quality tools in place that help lurkers to find the information they need effectively and efficiently (Sharrat & Usoro, 2003; Nonnecke, et al., 2004; Chen, 2007; Ardichvilli, 2008).

However, there seems to be more to it. According to Johnson (2001), it is not just about high quality technology itself. He adds that learning in virtual environments requires certain skills and therefore extensive scaffolding is necessary. This scaffolding can take place in many forms. Angehrn, Maxwell, and Sereno (2008) mention full-time moderators who help to connect people to content or people to people. They additionally discuss connection agents. Those agents, for example, stimulate users on a regular basis to review their own personal profiles and they can also make sure that users explicitly describe their relationship networks. In addition, Wenger, White, and Smith (2009) stress the importance of technological stewarding. A technological steward is an individual who understands the workings of a community to understand its technology needs. The technological steward also has experience or interest in technology to take leadership in addressing those needs.

Limitations

The work as presented in this article is subject to some limitations. First, the LPP perspective could not be analysed as an insufficient number of new employees responded to the survey.

Second, the survey respondents might not be representative of the entire online Business and Sales community. After all, the proportion of respondents was fairly small, especially for the lurkers. Although identifying the lurkers was not a methodological problem in itself, as Soroka and Rafaeli (2006) point out, the low response rate could be due to a problem that Mason (in Nonnecke & Preece, 2001) found; that is that most lurkers are less open to being studied by nature. Furthermore, Nonnecke et al., (2004) mention that there is anecdotal evidence that lurkers feel guilty about being one. This might be a reason for them not to respond to a survey.

Last, we only surveyed one online corporate CoP. Therefore, it remains unclear to which extend the findings can be generalised to other online corporate CoPs.

Future Research

Despite the limitations as presented above, the research as conducted shows an interesting perspective on lurking in online corporate CoPs and the consequences it has on the KM process. The results of this study indicate that, in order for organisations to make the most of their online corporate CoPs and gain the competitive advantages they strive for, they need to analyse why their employees do or do not actively participate in the CoP. In addition, they need to research if and how their employees use the knowledge that they obtain in the CoP on the job. We present the perspectives that organisations need to take into account and provides insight in the question if those perspectives are detrimental or fruitful for the KM process. In addition, our research reveals several implications for future research to support healthy and thriving online corporate CoPs.

As stated previously, new employees who lurk might be potentially problematic for knowledge sharing and, as a consequence, the intellectual capital in an organisation. Because we were unable to research the LPP perspective, future research is needed to determine if the hypothesis that *new employees in online corporate CoPs are lurkers* can be confirmed.

With regard to the interpersonal knowledge sharing barrier perspective, we suggest the likelihood that lurkers are unaware that this type of knowledge sharing barrier is a reason for them to not post any content. To research their reasons and feelings in more depth, it could have been helpful to interview lurkers. Because we used an anonymous survey, it was not possible to retrieve the lurkers' personal information and ask them for an interview. Future research might keep this in mind although non-anonymous surveys of course have disadvantages as well.

Besides research on feelings, reasons, and organisational culture, future research could also give more insight in CoP scaffolding and which role it plays in supporting technological and possibly other knowledge sharing barriers, such as the interpersonal knowledge sharing barrier.

Despite the fact that the free-riding hypothesis could be confirmed for lurkers, it would also be valuable to research in more detail why active participants, compared to lurkers, agree significantly more with the items assigned to this perspective. In addition, it would be interesting to research if online participation in a corporate CoP contributes more to the intellectual capital than offline knowledge sharing does.

We state that it is critical to continue to research all those aspects that are likely to play a part in causing lurkers to lurk and furthermore shed light on positive and negative consequences for the KM process as well. Only if we are able to paint the whole picture, a complex phenomenon such as lurking could be unravelled, which will help find ways to support a vibrant and knowledge creating online corporate CoP.

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